

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended): A process for generating mammalian cells producing pancreatic hormone, comprising:

obtaining mammalian pluripotent stem cells from differentiated exocrine glandular tissue of an organism, wherein the mammalian pluripotent stem cells ~~have a capacity to form organoid bodies;~~

cultivating and differentiating the mammalian pluripotent stem cells to generate the mammalian cells producing pancreatic hormone.

2. (Currently Amended): The process according to Claim 1, wherein the mammalian stem cells isolated ~~primarily~~ from the organism are cultivated and differentiated.

3. (Currently Amended): The process according to Claim 1, wherein the mammalian stem cells are provided as an aggregation in a form of organoid bodies.

4. (Currently Amended): The process according to Claim 3, wherein the differentiating of the mammalian stem cells is carried out in the organoid bodies.

5. (Currently Amended): The process according to Claim 3, wherein mammalian stem cells isolated ~~secondarily~~ from the organoid bodies are cultivated and differentiated.

6. (Currently Amended): The process according to Claim 1, further comprising a step of stimulating the ~~generating of~~ mammalian cells producing pancreatic hormone, said stimulating ~~comprising selected from the group consisting of:~~

providing supernatants of a primary culture of the endocrinal pancreas;
co-cultivation with cell lines of the endocrinal pancreas; and
treatment with immobilized or dissolved molecular differentiation factors provided in the liquid phase,

~~a stimulated propagation of~~
wherein the mammalian cells producing pancreatic hormone and/or a stimulated differentiation of the stem cells are stimulated.

7. (Previously Presented): The process according to Claim 6, wherein the stimulating step

comprises:

- (a) at least one stimulation treatment selected from the group consisting of:
 - treatment with supernatants of a primary culture of endocrine pancreas,
 - treatment with supernatants of cell lines of endocrine pancreas,
 - co-culture with differentiated cells of endocrine pancreas,
 - co-culture with cell lines of endocrine pancreas, and
 - treatment with immobilized molecular growth factors,
 - (b) activation of at least one gene involved in the differentiation of stem cells into the cells producing pancreatic hormone, and
 - (c) treatment with molecular growth factors dissolved in a liquid.
8. (Previously Presented): The process according to Claim 7, wherein the treatment with immobilized molecular growth factors comprises a cellular imprinting with molecular differentiation factors immobilized on a carrier.
9. (Previously Presented): The process according to Claim 8, wherein the carrier is a synthetic substrate, a cell membrane or a three-dimensional matrix substrate.
10. (Currently Amended): The process according to Claim 1, further comprising identifying and selecting the mammalian cells producing pancreatic hormone.
11. (Currently Amended): The process according to Claim 10, wherein the selecting of the mammalian cells producing pancreatic hormone comprises a cell sorting process.
12. (Previously Presented) The process according to Claim 10, wherein non-identified and selected cells are subjected to a further cultivation and differentiation.
13. (Currently Amended): The process according to Claim 1, wherein the mammalian stem cells are obtained from secretory glands or glands of a gastrointestinal tract of the organism.
14. (Currently Amended): The process according to Claim 13, wherein the mammalian stem cells are obtained from a pancreas or a salivary gland of the organism.
15. (Currently Amended): The process according to Claim 1, wherein the mammalian stem cells are from glandular tissue that is acinar tissue.
16. (Currently Amended): The process according to Claim 1, wherein the mammalian stem cells are from a vertebrate.
17. (Currently Amended): The process according to Claim 16, wherein the mammalian

stem cells are from a primate.

18. (Withdrawn): The process according to Claim 1, wherein the cells producing pancreatic hormone are used for pharmaceutical applications.

19. (Withdrawn): The process according to Claim 18, wherein the cells producing pancreatic hormone are used for treating pancreatic diseases, a metabolic syndrome or metabolic diseases.

20. (Withdrawn): The process according to Claim 19, wherein the cells producing pancreatic hormone are used for treating diabetes, hyperglycemia or impaired glucose tolerance.

21. (Withdrawn): The process according to Claim 1, wherein the cells producing pancreatic hormone produce insulin.

22. (Withdrawn): An isolated cell producing pancreatic hormone, the cell having been generated from a pluripotent stem cell isolated from differentiated exocrine glandular tissue of an organism, and having a capacity to form organoid bodies.

23. (Withdrawn): The isolated cell producing pancreatic hormone according to Claim 22, which is a human cell.

24. (Withdrawn): A cellular composition containing a plurality of cells producing pancreatic hormone according to Claim 22.

25. (Withdrawn): The cellular composition according to Claim 24, wherein the cells producing pancreatic hormone are generated by a process comprising cultivation and differentiation of pluripotent stem cells obtained from differentiated exocrine glandular tissue of an organism, and having a capacity to form organoid bodies.

26. (Withdrawn): The cellular composition according to Claim 24, which additionally contains other cell types.

27. (Withdrawn): The cellular composition according to Claim 26, wherein the other cell types comprise stem cells and/or neighboring cells of islets of Langerhans in pancreatic tissue.

28. (Withdrawn): The cellular composition according to one of Claim 24, which contains a casing or matrix material.

Claim 29-31. (Canceled).

32. (Withdrawn): Artificial islets of Langerhans containing a cell according to Claim 22.

33. (Withdrawn): A pharmaceutical composition containing:

at least one cell according to Claim 22, and
a pharmaceutical carrier substance.

34. (Withdrawn): The pharmaceutical composition of claim 33, which is autologous.

35. (Withdrawn): A pharmaceutical composition containing:

at least one cellular composition according to Claim 24, and
a pharmaceutical carrier substance.

36. (Withdrawn): The pharmaceutical composition of claim 35, which is autologous.

37. (Withdrawn): Artificial islets of Langerhans containing at least one cellular composition according to Claim 24.

38. (Withdrawn) A medical transplant or medical device comprising at least one cell according to Claim 22.

39. (Withdrawn): A medical transplant or medical device comprising at least one cellular composition according to Claim 24.

40. (Withdrawn): The process according to Claim 1, wherein the stem cells are from a mammal.

41. (Withdrawn): The process according to Claim 1, wherein the stem cells are from a human.